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SEEING IS BELIEVING

MARY JORDAN

Joshua Silver, inventor of self-adjusting glasses, has distributed 30,000 pairs of the "adaptive" spectacles among people with poor eyesight and aspires to distribute a billion more in the developing world

HOW IT WORKS

The glasses are based on the principle that the more the liquid pumped into a thin sac in the plastic lenses, the stronger the correction.



Joshua Silver remembers the first day he helped a man see. Henry Adjei-Mensah, a tailor in Ghana, could no longer see well enough to thread the needle of his sewing machine. He was too poor to afford glasses or an optometrist. Then Silver, an atomic physicist who also taught optics at Oxford University, handed him a pair of self-adjusting glasses he had designed, and suddenly the tailor's world came into crystal-clear focus.

Silver, 62, aims to distribute his special glasses throughout the developing world. He said he wants to provide eyeglasses to more than a billion people with poor eyesight. For starters, he hopes to distribute a million pairs in India over the next year or so.

In the United States, Britain and other wealthy nations, 60 to 70 per cent of people wear corrective glasses, Silver said. But in many developing countries, only about 5 per cent have glasses because so many people, especially those in rural areas, have little or no access to eye-care professionals.

Even if they could visit an eye doctor, the cost of glasses can be more than a month's wages. This means that many schoolchildren cannot see the blackboard, bus drivers can't see clearly and others can no longer fish, teach or do other jobs because of failing vision.

"It's about education, economics and quality of life," Silver said. The glasses, which are made in China, are not sleek. In fact, he acknowledged,, "detractors call them ugly." He said the design can be improved, but the current model looks like something from the back of Woody Allen's closet—thick dark frames with round lenses.

Silver's glasses work on the principle that the more the liquid pumped into a thin sac in the plastic lenses, the stronger the correction.

Silver has attached plastic syringes filled with silicone oil on each bow of the glasses; the wearer adds or subtracts the clear liquid with a little dial on the pump until the focus is right. After that adjustment, the syringes are removed and the "adaptive glasses" are ready to go.

Currently, Silver said, a pair costs about \$19, but his hope is to cut that to a few dollars. He has distributed about 30,000 spectacles. The US Department of Defense bought 20,000 pairs to give away to poor people in Africa and Eastern Europe. The World Bank and the British government have also helped fund his work.

"There are guys walking down the street in Angola with a smile on their face because for the first time since they were kids they can see their town," said Marine Major Kevin White.

When White, who is stationed at Fort Belvoir, was in charge of a military humanitarian aid programme in 2005, he read about Silver's glasses, met him and got approval to buy and distribute them. "I am really impressed with what he is doing," White said. "It's a noble cause."

Silver said there has been some resistance from the eyewear industry. Years ago, one vision company offered a "substantial amount of money" to him if he sold them his technology, but Silver said he declined because he had no assurance that it would be used to bring low-cost glasses to the poor.

He said the current business model for the industry that involves optometrists, opticians and labs making custom lenses and frames is to make "very high-quality, high-cost products for the developed world." He said his "lunatic's dream" is to say, "Hold on, half the world can't afford that."

His glasses correct nearsightedness and farsightedness but not astigmatism. Silver stressed they do not replace the need for people to go to an eye professional who can diagnose health problems such as glaucoma, diabetes and high blood pressure. Meanwhile, he will continue to help people see.

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